

Air Quality Health Index Light Bulb

Setup Guide

May 2023

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Introduction

The **Air Quality Health Index Light Bulb** is an innovative digital platform developed by the City of Edmonton that displays Edmonton's current outdoor air quality as reported by the **Air Quality Health Index (AQHI)**.

It works by connecting a WiFi enabled light bulb to an app to receive notifications when Edmonton's air quality changes.

Note: The AQHI light bulb displays the outdoor air quality via an Internet connection. The bulb does NOT need to be located outdoors in order to work.

Readings are provided throughout the day from the various air quality monitoring stations throughout the city. The light bulb automatically changes colour according to the AQHI – poor air quality = red, good air quality = blue.

This tool can help illustrate how air quality might affect health. For example, when the AQHI exceeds 7, local soccer games may be canceled.

Read on to learn how to build your own AQHI Lamp!

Measurement Scale

The light bulb changes colour according to the Alberta AQHI. The AQHI is a scale designed to help Edmontonians understand what air quality means to their health.

VERY HIGH RISK

- Avoid strenuous outdoor activities
- **AQHI Scale:** 10+

HIGH RISK

- Reduce or reschedule strenuous outdoor activities
- **AQHI Scale:** 7 to 10

MODERATE RISK

- Consider reducing or rescheduling strenuous outdoor activities
- **AQHI Scale:** 4 to 6

LOW RISK

- Enjoy usual outdoor activities
- **AQHI Scale:** 1 to 3



Note: The light bulb displays only a single colour at a time. The exact colour of your light bulb may differ based on the model you use.



Disclaimer: The City of Edmonton expressly disclaims any and all warranties of any kind, express or implied, including, without limitation the warranties of design, merchantability, fitness for a particular purpose or intellectual property rights of third parties, for the Air Quality Health Index (AQHI) light bulb setup or this setup guide.

The City of Edmonton does not own, operate or have any control over any of the components, either physical or technological, of the AQHI light bulb setup, and therefore is unable to provide users with any service or support, including technical support for the device itself, connected components or the setup process for the device for any purpose. This guide is provided 'as is' and solely for the convenience of the individual seeking to set up an AQHI light bulb for their own purposes.

This setup makes use of third-party technology, where these third parties may collect and use your personal information, and users are encouraged to carefully read all terms of use, warranties and other documentation provided by each party, including, but not limited to LIFX, your network provider and Google.

By completing this setup, users of this guide and the supporting technology voluntarily accept all risks and responsibilities, and release the City of Edmonton from all liability.

About

This guide provides an overview of how to set up a LIFX light bulb and account, a Google account and the City of Edmonton AQHI code. It is recommended that users have a familiarity with WiFi smart bulb technology and how to troubleshoot issues such as network connectivity and account administration before proceeding.

Requirements

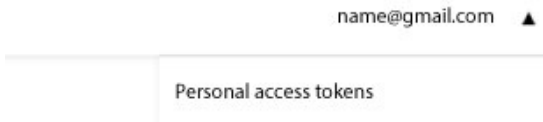
- » LIFX WiFi enabled lightbulb: lifx.com/collections/all
 - Must be WiFi enabled and able to change colours
- » Smartphone with LIFX application
 - Search for LIFX in Google Play, Microsoft Store or Apple App Store:
 - ◇ app.lifx.com
 - ◇ apps.apple.com/us/app/lifx/id657758311
- » LIFX cloud account: cloud.lifx.com/sign_in
- » Google Account: google.com/account/about
- » WiFi Network with 2.4GHz band capability

Step 1: Add the LIFX device to your account

- » Create your LIFX account by downloading the application from Google Play, the Microsoft Store or Apple App Store and registering a new account.
- » Follow the steps listed in the linked LIFX guide to add your LIFX device to your account. There are video tutorials available online. Note that this guide may change depending on LIFX's updates to their product line:
 - support.lifx.com/lifx-light-setup-Bytuild
 - Select your WiFi network and enter the password. (Please note that at the time of writing this guide, LIFX only supports 2.4GHz networks.)
 - Use the LIFX app on your smartphone to test that it is paired by using the app to power your light bulb on/off or change colour.
- » End of Step 1.

Step 2: Add your device to your LIFX cloud account and generate a token

- » Once you have successfully added your LIFX device to your phone, you can view it under “Manage Devices” at cloud.lifx.com/sign_in.
- » At the top right, under your account name, click the drop-down menu and select “Personal access tokens”:



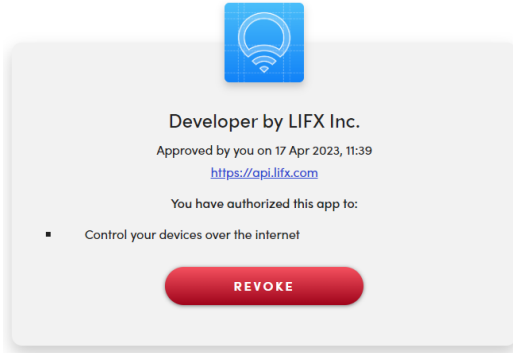
- » Click on Generate New Token:

Personal access tokens

Use personal access tokens for private, beta use of the [LIFX HTTP API](#) to remotely control your lighting.

GENERATE NEW TOKEN

- » Once you have generated your token, you have approved LIFX to control your LIFX light bulb over the internet. On the LIFX Cloud home page, towards the bottom, you should see this after you have generated your token:




- » Once you have generated your new token, it is important that you copy the new token and save it as you will need it in the next step. If you do not save it, you will need to regenerate it. Here is what the token looks like:

Copy your token and keep it safe.

```
c077f757c9a455f40229a40688ae4d9c08f79b36ce6c6cffb16  
f478b8b9b10c6
```

You will not be able to retrieve the token after leaving or reloading this page.

- » To save the token, open Notepad, Microsoft Word or a similar program. Copy the token from the LIFX page, paste it and save it. Here is an example using Notepad:

 AQHI Token - Notepad

File Edit Format View Help

c077f757c9a455f40229a40688ae4d9c08f79b36ce6c6cffb16f478b8b9b10c6

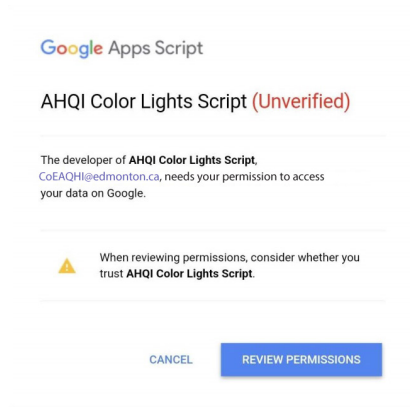
- » End of Step 2.

Step 3: Create a personal Google account and pair your LIFX device with the City of Edmonton AQHI Script

- » If you do not already have one, create a Google account: google.com/account/about
- » Ensure you are signed into your Google account before proceeding.
- » While signed in to your Google account, navigate to the following link to access the City of Edmonton AQHI Script:
script.google.com/a/macros/edmonton.ca/s/AKfycbx9OrksbgK_XIsTNdRnJ6ON-OSGgo4_1UpnRPRZDJMpX_batAgyUnMqOY118AJBD99b2w/exec



- » Click "Review Permissions":



- Note: This email account is NOT monitored. Emails sent to this address (CoEAQHI@edmonton.ca) will not be read, forwarded or responded to.

- » Paste your token into the API Token field, choose a City from the drop-down menu and press "Save API Token":
- » Once the token is saved, refresh the page to see the

LiFX Token

API Token	Choose a City
<input style="width: 90%;" type="text" value="c077f757c9a455f40229a40688ae4"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="Edmonton"/>
Save API Token	

saved city:

Currently Saved City:

Refresh page to see updated/saved city

Edmonton

- » Next, press "Start/Install Scheduled Task" to install a script that will automatically update your LIFX bulb to the colour of the AQHI every 15 minutes. Once installed, the bulb should change colours according to the current AQHI of the city selected.
- » End of Step 3.

Additional Information

- » To change the location:
 - Keep the API Token unchanged and use the drop-down menu to select a different location.
 - Click on the "Save API Token" button.
 - Refresh the page to ensure the changes take effect. The newly selected location will be displayed under "Currently Saved City" to indicate that the changes have been successfully applied.
 - Finally, press the "Start/Install Scheduled Task" button to run the script that will automatically update your LIFX bulb to match the AQHI at the new location.
- » The current AQHI across Alberta for each city can be viewed here: airquality.alberta.ca/map
- » "Run Manually" will cause the bulb to update the AQHI without having to wait 15 minutes.
- » "Run Colour Test" will cycle through the various AQHI colours.
- » "Pause/Stop Scheduled Task" will prevent the bulb from automatically updating.
- » "Uninstall Script" will remove the script from your Google Account.

Troubleshooting: What to do if the bulb is not working?

- » Uninstall and reinstall the City of Edmonton AQHI Google App Script:
script.google.com/a/macros/edmonton.ca/s/AKfycbx9OrksbgK_XlsTNdRnJ6ON-OSGgo4_1UpnRPRZDJMpX_batAgyUnMqOY1I8AJBD99b2w/exec



- » Use the "Uninstall Script" button. If successful, the button will display "Uninstalled".
- » Then, follow Step 3 of this Setup Guide to save the token and reinstall the script.
- » If the above troubleshooting steps have not helped, then hardware reset your LIFX (support.lifx.com/hardware-resetting-your-lifx-ryXKbdiLO) and follow the setup instructions from the start.



- » Finally, if the WiFi network has changed or you are trying to join a new network, refer to the LIFX troubleshooting setup guide (support.lifx.com/troubleshooting-setup-BJD5Zdi8_) for advice on how to troubleshoot network/router issues.



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